In the Claims

Kindly amend the claims as follows.

Cancel claims 1-24 without prejudice or disclaimer.

Add new claims 25-86.

--25. A vaccine composition comprising at least one antigen and at least one amphipathic compound possessing a lipophilic group derived from a sterol linked to a cationic group via a carbamoyl group.

26. A vaccine composition of claim 25, wherein said lipophilic group is a cholesterol derivative.

27. The vaccine composition of claim 25, wherein said cationic group is a quaternary ammonium or an amine which can be protonated.

28. The vaccine composition of claim 25, wherein said antigen is an influenza virus antigen.

29. The vaccine composition of claim 25, wherein said lipophilic group is separated from the cationic group by a branched or unbranched alkyl chain comprising from 1 to 20 carbon atoms.

30. The vaccine composition of claim 26, wherein said amphipathic compound is selected from the group consisting of cholesteryl-3β-carboxamidoethylenetrimethylammonium iodide, cholesteryl-3β-carboxamidoethylenamine, cholesteryl-3β-oxysuccinamidoethylene-trimethylammonium iodide, 3β-(N-(N′, N′-dimethylaminoethane)carbamoyl)cholesterol, and 3β-(N-(polyethylenamine)carbamoyl)cholesterol.

31. The vaccine composition of claim 30, wherein said amphipathic compound is 3β-(N- (N′, N′-dimethylaminoethane)carbamoyl)cholesterol.

32. The vaccine composition of claim 30, wherein said amphipathic compound is 3β-(N-(polyethylenamine)carbamoyl)cholesterol.

33. The vaccine composition of claim 25, wherein said amphipathic compound further comprises a neutral lipid.

34. The vaccine composition of claim 33, wherein the proportion of said neutral lipid to said amphipathic compound is greater than 20%.

35. The vaccine composition of claim 33, wherein said neutral lipid is dioleoylphosphatidylethanolamine or dioleoylphosphatidylcholine.

36. The vaccine composition of claim 25, wherein said amphipathic compound is dispersed in an aqueous environment in the form of liposomes.

37. The vaccine composition of claim 25, wherein said amphipathic compound takes the form of liposomes including at least one antigen.

38. A method of making the vaccine composition of claim 25, comprising combining said antigen and said amphipathic compound linked to a cationic group via a carbamoyl group to form said composition.

39. The method of claim 38, wherein said lipophilic group is a cholesterol derivative.

40. The method of claim 38, wherein said cationic group is a quaternary ammonium or an amine which can be protonated.

41. The method of claim 38, wherein said antigen is an influenza virus antigen.

42. The method of claim 38, wherein said lipophilic group is separated from the cationic group by a branched or unbranched alkyl chain comprising from 1 to 20 carbon atoms.

43. The method of claim 39, wherein said amphipathic compound is selected from the group consisting of cholesteryl-3β-carboxamidoethylenetrimethylammonium iodide, cholesteryl-3β-carboxamidoethylenamine, cholesteryl-3β-oxysuccinamidoethylenetrimethylammonium iodide, 3β-(N- (N′, N′-dimethylaminoethane)carbamoyl)cholesterol, and 3β-(N-(polyethylenamine)-carbamoyl)cholesterol.

44. The method of claim 43, wherein said amphipathic compound is 3β-(N-(N′, N′-dimethylaminoethane)carbamoyl)cholesterol.

45. The method of claim 43, wherein said amphipathic compound is 3β-(N-(polyethylenamine)carbamoyl)cholesterol.

46. The method of claim 38, wherein said amphipathic compound is combined with a neutral lipid.

47. The method of claim 46, wherein the proportion of said neutral lipid to said amphipathic compound is greater than 20%.

48. The method of claim 46, wherein said neutral lipid is dioleoylphosphatidylethanolamine or dioleoylphosphatidylcholine.

49. The method of claim 38, wherein said amphipathic compound is dispersed in an aqueous environment in the form of liposomes.

50. The vaccine composition obtained by the method of claim 38.

51. The vaccine composition of claim 50, wherein said lipophilic group is a cholesterol derivative.

52. The vaccine composition of claim 50, wherein said cationic group is a quaternary ammonium or an amine which can be protonated.

53. The vaccine composition of claim 50, wherein said antigen is an influenza virus antigen.

54. The vaccine composition of claim 50, wherein said lipophilic group is separated from the cationic group by a branched or unbranched alkyl chain comprising from 1 to 20 carbon atoms.

55. The vaccine composition of claim 51, wherein said amphipathic compound is selected from the group consisting of cholesteryl-3β-carboxamidoethylenetrimethylammonium iodide, cholesteryl-3β-carboxamidoethylenamine, cholesteryl-3β-oxysuccinamidoethylenetrimethylammonium iodide, 3β-(N-(N′, N′-dimethylaminoethane)-carbamoyl)cholesterol, and 3β-(N-(polyethylenamine)carbamoyl)cholesterol.

56. The vaccine composition of claim 55, wherein said amphipathic compound is 3β-(N-(N′, N′-dimethylaminoethane)carbamoyl)cholesterol.

57. The vaccine composition of claim 55, wherein said amphipathic compound is 3β-(N-(polyethylenamine)carbamoyl)cholesterol.

58. The vaccine composition of claim 50, wherein said amphipathic compound is combined with a neutral lipid.

59. The vaccine composition of claim 58, wherein the proportion of said neutral lipid to said amphipathic compound is greater than 20%.

60. The vaccine composition of claim 58, wherein said neutral lipid is dioleoylphosphatidylethanolamine or dioleoylphosphatidylcholine.

61. The vaccine composition of claim 50, wherein said amphipathic compound is dispersed in an aqueous environment in the form of liposomes.

62. A method for inducing an immune response in a mammal, comprising administering the vaccine composition of claim 25 to a mammal.

63. The method of claim 62, wherein said immune response is a humoral immune response.

64. The method of claim 62, wherein said immune response is a cytotoxic T cell response,

65. The method of claim 62, wherein said immune response is a TH_1-type immune response.

66. The method of claim 62, wherein said antigen is an influenza virus haemagglutinin.

67. The method of claim 62, wherein said vaccine composition is administered by the subcutaneous route.

68. The method of claim 62, wherein said wherein said vaccine composition is administered by the mucosal route.

69. The method of claim 62, wherein said vaccine composition is administered by the intranasal route.

70. The method of claim 62, wherein said lipophilic group is a cholesterol derivative.

71. The method of claim 70, wherein said amphipathic compound is selected from the group consisting of cholesteryl-3β-carboxamidoethylenetrimethylammonium iodide, cholesteryl-3β-carboxamidoethylenamine, cholesteryl-3β-oxysuccinamidoethylenetrimethylammonium iodide, 3β-(N- (N′, N′-dimethylaminoethane)carbamoyl)cholesterol, and 3β-(N-(polyethylenamine)-carbamoyl)cholesterol.

72. The method of claim 70, wherein said amphipathic compound is 3β-(N-(N′, N′-dimethylaminoethane)carbamoyl)cholesterol.

73. The method of claim 70, wherein said amphipathic compound is 3β-(N-(polyethylenamine)carbamoyl)cholesterol.

74. A product comprising at least one antigen and one amphipathic compound comprising a lipophilic group derived from a sterol linked to a cationic group via carbamoyl group, as a combination product for use simultaneously, separately or staggered over time in vaccination.

75. A method for inducing an immune response in a mammal, comprising

(a) administering at least one antigen to the mammal; and

(b) further administering at least one ~~amphiphilic~~ amphipathic compound comprising a lipophilic group derived from a sterol linked to a polar group via a carbamoyl group.

76. The method of claim 75, wherein the antigen is an influenza virus haemagglutinin.

77. The method of claim 75, wherein said immune response is a humoral immune response.

78. The method of claim 75, wherein said immune response is a cytotoxic T cell response.

79. The method of claim 75, wherein said immune response is a TH_1-type immune response.

80. The method of claim 75, wherein said ~~vaccine composition~~ amphipathic compound is administered by the subcutaneous route.

81. The method of claim 75, wherein said wherein said ~~vaccine composition~~ amphipathic compound is administered by the mucosal route.

82. The method of claim 75, wherein said ~~vaccine composition~~ amphipathic compound is administered by the intranasal route.

83. The method of claim 75, wherein said lipophilic group is a cholesterol derivative.

84. The method of claim 83, wherein said amphipathic compound is selected from the group consisting of cholesteryl-3β-carboxamidoethylenetrimethylammonium iodide, cholesteryl-3β-carboxamidoethylenamine, cholesteryl-3β-oxysuccinamidoethylenetrimethylammonium iodide, 3β-(N-(N′, N′-dimethylaminoethane)carbamoyl)cholesterol, and 3β-(N-(polyethylenamine)-carbamoyl)cholesterol.

85. The method of claim 84, wherein said amphipathic compound is 3β-(N-(N′, N′-dimethylaminoethane)carbamoyl)cholesterol.

86. The method of claim 84, wherein said amphipathic compound is 3β-(N-(polyethylenamine)carbamoyl)cholesterol.--

Remarks

I. Status of the Claims

Claims 1-24 have been canceled without prejudice or disclaimer. Claims 25-86 have been added. Accordingly, claims 25-86 are active in this application.